ION GEOPHYSICAL CORP
Form 10-K
March 02, 2009

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
Form 10-K

(Mark One)

þ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Fiscal Year Ended December 31, 2008

or

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission file number 1-12691
ION Geophysical Corporation
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**22-2286646**
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*

2105 CityWest Blvd
Suite 400
Houston, Texas 77042-2839
(Address of Principal Executive Offices, Including Zip Code)
(281) 933-3339
(Registrant s Telephone Number, Including Area Code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	**Name of Each Exchange on Which Registered**
Common Stock, $0.01 par value	New York Stock Exchange
Rights to Purchase Series A Junior Participating Preferred Stock	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No þ

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act Yes o No þ

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes þ No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Accelerated filer o

Large accelerated filer þ	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes o No þ

As of June 30, 2008 (the last business day of the registrant s second quarter of fiscal 2008), the aggregate market value of the registrant s common stock held by non-affiliates of the registrant was $1.481 billion based on the closing sale price on such date as reported on the New York Stock Exchange.

Indicate the number of shares outstanding of each of the registrant s classes of common stock, as of the latest practicable date: common stock, $.01 par value, 99,735,028 shares outstanding as of February 12, 2009.

DOCUMENTS INCORPORATED BY REFERENCE

Document	**Parts Into Which Incorporated**
Portions of the Proxy Statement for the Annual Meeting of Stockholders to be held May 27, 2009	Part III

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PART I

Preliminary Note: **This Annual Report on Form 10-K contains forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements should be read in conjunction with the cautionary statements and other important factors included in this Form 10-K. See Item 1A. *Risk Factors* for a description of important factors which could cause actual results to differ materially from those contained in the forward-looking statements.**

In this Annual Report on Form 10-K, ION Geophysical, ION, company, we, our, ours and us refer to ION Geophysical Corporation and its consolidated subsidiaries, except where the context otherwise requires or as otherwise indicated.

Item 1. *Business*

We are a technology-focused seismic solutions company that provides advanced seismic data acquisition equipment, seismic software, and seismic planning, processing, and interpretation services to the global energy industry. Our products, technologies, and services are used by oil and gas exploration and production (E&P) companies and seismic acquisition contractors to generate high-resolution images of the subsurface during exploration, exploitation, and production operations. Our products and services are intended to measure and interpret seismic data about rock and fluid properties within the Earth s subsurface, which enables oil and gas companies to make improved drilling and production decisions. The seismic surveys for our data library business are substantially pre-funded by our customers and we contract with third party seismic data acquisition companies to acquire the data, all of which minimizes our risk exposure. We are able to serve oil and gas companies in all major energy producing regions of the world from strategically located offices in 22 cities on five continents. Our products and services include the following:

- land and marine seismic data acquisition equipment,
- navigation, command & control, and data management software products,
- planning services for survey design and optimization,
- seismic data processing services, and
- seismic data libraries.

Seismic imaging plays a fundamental role in hydrocarbon exploration and reservoir development by delineating structures, rock types, and fluid locations in the subsurface. Geoscientists interpret seismic data to identify new sources of hydrocarbons and pinpoint drilling locations for wells, which can be costly and high risk. As oil and gas reservoirs have become harder to find and more expensive to develop and exploit in recent years, the demand for advanced seismic imaging solutions has grown. In addition, seismic technologies are now being applied more broadly over the entire life cycle of a hydrocarbon reservoir to optimize production. For example, time-lapse seismic images (referred to as 4D or four-dimensional surveys), in which the fourth dimension is time, can be made of producing reservoirs.

ION has been involved in the seismic technology industry for approximately 40 years, starting in the 1960s when we designed and manufactured seismic equipment under our previous company name, Input/Output, Inc. In recent years, we have transformed our business from being solely a manufacturer and seller of seismic equipment to being a provider of a full range of seismic imaging products, technologies, and services. See Item 7 *Management s Discussion and Analysis of Financial Condition and Results of Operations Executive Summary* for a list of certain developments in our business in 2008 and early 2009.

We operate our company through four business segments. Three of these segments Land Imaging Systems, Marine Imaging Systems and Data Management Solutions make up our ION Systems division. The fourth segment is our ION Solutions division.

Land Imaging Systems cable-based, cableless, and radio-controlled seismic data acquisition systems, digital and analog geophone sensors, vibroseis vehicles (i.e. vibrator trucks), and source controllers for detonator and

vibrator energy sources.

Marine Imaging Systems towed streamer and redeployable ocean bottom cable seismic data acquisition systems and shipboard recorders, streamer positioning and control systems, and energy sources (such as air guns and air gun controllers).

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Data Management Solutions software and related services for navigation and data management involving towed marine streamer and seabed operations.

ION Solutions advanced seismic data processing services for marine and land environments, our marine seismic data libraries, and our Integrated Seismic Solutions (ISS) services.

Our executive headquarters are located at 2105 CityWest Boulevard, Suite 400, Houston, Texas 77042-2839. Our telephone number is (281) 933-3339. Our home page on the internet is *www.iongeo.com*. We make our website content available for information purposes only. It should not be relied upon for investment purposes, nor is it incorporated by reference into this Form 10-K.

In portions of this Form 10-K, we incorporate by reference information from parts of other documents filed with the Securities and Exchange Commission (SEC). The SEC allows us to disclose important information by referring to it in this manner, and you should review this information. We make our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, annual reports, and proxy statements for our stockholders meetings, as well as any amendments to those reports, available free of charge through our website as soon as reasonably practicable after we electronically file those materials with, or furnish them to, the SEC.

You can learn more about us by reviewing our SEC filings on our website. Our SEC reports can be accessed through the Investor Relations section on our website. The SEC also maintains a website at *www.sec.gov* that contains reports, proxy statements, and other information regarding SEC registrants, including our company.

Seismic Industry Overview

Since the 1930s, oil and gas companies have sought to reduce exploration risk by using seismic data to create an image of the Earth s subsurface. Seismic data is recorded when listening devices placed on the Earth s surface or seabed floor, or carried within a streamer cable on a towed streamer vessel, measure how long it takes for sound vibrations to echo off rock layers underground. For seismic acquisition onshore, the acoustic energy producing the sound vibrations is generated by the detonation of small explosive charges or by large vibroseis (vibrator) vehicles. In marine acquisition, the energy is provided by a series of air guns that deliver highly compressed air into the water column.

The acoustic energy propagates through the subsurface as a spherical wave front, or seismic wave. Interfaces between different types of rocks will both reflect and transmit this wave front. Onshore, the reflected signals return to the surface where they are measured by sensitive receivers that may be either analog coil-spring geophones or digital accelerometers based on MEMS (micro-electro-mechanical systems) technology; offshore, the reflected signals are recorded by either hydrophones towed in an array behind a streamer acquisition vessel or by multicomponent geophones or MEMS sensors that are placed directly on the seabed. Once the recorded seismic energy is processed using advanced algorithms and workflows, images of the subsurface can be created to depict the structure, lithology (rock type), fracture patterns, and fluid content of subsurface horizons, highlighting the most promising places to drill for oil and natural gas. This processing also aids in engineering decisions, such as drilling and completion methods, as well as decisions affecting overall reservoir production.

Typically, an E&P company engages the services of a geophysical acquisition company to prepare site locations, coordinate logistics, and acquire seismic data in a selected area. The E&P company generally relies upon third parties such as ION to provide the contractor with equipment, navigation and data management software, and field support services necessary for data acquisition. After the data is collected, the same geophysical contractor, a third-party data processing company, or the E&P company itself will process the data using proprietary algorithms and workflows to create a series of seismic images. Geoscientists then interpret the data by reviewing the images and integrating the geophysical data with other geological and production information such as well logs or core information.

During the 1960s, digital seismic data acquisition systems (which converted the analog output from the geophones into digital data for recording) and computers for seismic data processing were introduced. Using the new systems and computers, the signals could be recorded on magnetic tape and sent to data processors where they could be adjusted and corrected for known distortions. The final processed data was displayed in a form known as stacked data. Computer filing, storage, database management, and algorithms used to process the raw data quickly grew more sophisticated, dramatically increasing the amount of subsurface seismic information.

Until the early 1980s, the primary commercial seismic imaging technology was two-dimensional, or 2-D, technology. 2-D seismic data is recorded using straight lines of receivers crossing the surface of the Earth. Once processed, 2-D seismic data allows

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geoscientists to see only a thin vertical slice of the Earth. A geoscientist using 2-D seismic technology must speculate on the characteristics of the Earth between the slices and attempt to visualize the true three-dimensional (3-D) structure of the subsurface.

The commercial development of 3-D imaging technology in the early 1980s was an important technological milestone for the seismic industry. Previously, the high cost of 3-D seismic data acquisition techniques and the lack of computing power necessary to process, display, and interpret 3-D data on a commercial basis had slowed its widespread adoption. Today s 3-D seismic techniques record the reflected energy across a series of closely-spaced seismic lines that collectively provide a more holistic, spatially-sampled depiction of geological horizons and, in some cases, rock and fluid properties, within the Earth.

3-D seismic data and the associated computer-based interpretation platforms allowed geoscientists to generate more accurate subsurface maps than could be constructed on the basis of the more widely spaced 2-D seismic lines. In particular, 3-D seismic data provided more detailed information about subsurface structures, including the geometry of bedding layers, salt structures, and fault planes. The improved 3-D seismic images allowed the oil and gas industry to discover new reservoirs, reduce finding and development costs, and lower overall hydrocarbon exploration risk. Driven by faster computers and more sophisticated mathematical equations to process the data, the technology advanced quickly.

As commodity prices decreased and the pace of innovation in 3-D seismic imaging technology slowed in the late 1990s, E&P companies slowed the commissioning of new seismic surveys. Also, business practices employed by geophysical contractors in the 1990s impacted demand for seismic data. In an effort to sustain higher utilization of existing capital assets, geophysical contractors increasingly began to collect speculative seismic data for their own account in the hopes of selling it later to E&P companies. Contractors typically selected an area, acquired data using generic acquisition parameters and generic processing algorithms, capitalized the acquisition costs, and attempted to sell the survey results to multiple E&P companies. These generic, speculative, multi-client surveys were not tailored to meet the unique imaging objectives of individual clients and caused an oversupply of seismic data in many regions. Additionally, since contractors incurred most of the costs of this speculative seismic data at the time of acquisition, contractors lowered prices to recover as much of their fixed investment as possible, which drove operating margins down.

The fundamentals of the oil and gas exploration and production industry and the seismic sector improved markedly beginning in 2004. As commodity prices increased, E&P companies increased their capital investment programs, which drove higher demand for our products and services. In July 2008, oil prices reached an all-time high of nearly $150 per barrel. Sentiment changed dramatically in September 2008 as adverse global economic conditions began to affect demand for a wide variety of products and services throughout the world, including the demand for both oil (and refined products, such as gasoline) and natural gas. By the end of 2008, oil prices had fallen to roughly $40 per barrel, and E&P companies began to curtail their investment programs, announcing spending cuts that exceeded 30% in some cases. As a consequence, seismic acquisition contractors began to scale-back their investments in new seismic hardware and software, while E&P companies moved to optimize their spending on seismic data processing services and the purchase of seismic data libraries. See Item 7 *Management s Discussion and Analysis of Financial Condition and Results of Operations* for further information.

ION Geophysical s Business Strategy

Beginning in 2004 and continuing until the fourth quarter of 2008, we observed increased spending for seismic services and equipment by E&P companies and seismic contractors, driven in part by an increase in commodity prices. A decline in the number and size of new discoveries, production declines in known reservoirs, and expanded demand for hydrocarbons had increased the pressure on E&P companies to discover additional fields and optimize the recovery of those already on production. Until the fourth quarter of 2008, this increasing exploration activity combined with higher commodity price levels increased the demand for seismic technology and services. Additionally, E&P companies were focusing on hydrocarbon reservoirs located in deeper waters or deeper in the geologic column. These reservoirs are generally more complex or subtle than the reservoirs that were discovered in prior decades and are located in unconventional reservoir types such as tar sand deposits or tight gas locked within hard rock, low permeability shales. As a result, the process of finding and developing these hydrocarbon deposits is

proving to be more challenging, which in turn results in escalating costs and increasing demands for newer and more efficient imaging technologies. Moreover, as E&P companies may increasingly use seismic data to enhance production from known fields by repeating time-lapse seismic surveys over a defined area, we believe that seismic companies such as ION can benefit because the repeat application of seismic extends the utility of subsurface imaging beyond exploration and into production monitoring, which can last for decades.

We also believe that E&P companies will increasingly use seismic technology providers who will collaborate with them to tailor surveys that address specific geophysical problems and to apply advanced digital sensor and imaging technologies to take into account the geologic peculiarities of a specific area. In the future, we expect that these companies will rely less on undifferentiated, mass

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seismic studies created using analog sensors and traditional processing technologies that do not adequately identify geologic complexities.

In 2004, we acquired two companies, which were important in our evolution from being primarily a seismic equipment provider to becoming a broad-based seismic solutions provider:

Our acquisition of Concept Systems Holdings Limited (Concept Systems) and its integrated planning, navigation, command & control, and data management software and solutions for towed streamer and seabed operations; and

Our acquisition of GX Technology Corporation (GXT), and its advanced seismic data imaging solutions services and seismic data libraries for the marine environment.

Additionally, in September 2008, we further expanded our land system offerings through the acquisition of ARAM Systems Ltd. and Canadian Seismic Rentals Inc. (sometimes collectively referred to herein as ARAM). We acquired ARAM for the purpose of advancing our strategy and market penetration in the land seismic recording system business.

Through these and other acquisitions, along with our research and development efforts, our technologies and services now include seismic data acquisition hardware, command and control software, value-added services associated with seismic survey design, seismic data processing and interpretation, and seismic data libraries.

The dramatic changes that occurred in the fourth quarter of 2008 and continued into 2009 have caused us to re-evaluate and refine our business strategy. During late 2008, disruption in the U.S. financial markets prompted a global economic crisis, which adversely affected economic activity in most regions of the world and led to a tightening of the availability of commercial credit. Many economists are now predicting a prolonged worldwide economic recession and a slow recovery in the credit markets.

Since the global economic crisis began to unfold, crude oil prices have rapidly declined from a peak oil price of $147 per barrel in July 2008 to approximately $40 per barrel in December 2008. Hydrocarbon price erosion has caused E&P companies to decrease their capital expenditure plans for exploration and production activities, which, in turn, adversely impacts the demand for many of our products and services. Unlike many other seismic companies, we participate only in the technology side of the business and are mainly involved in the planning, processing and interpretation of data services. We do not provide the actual contracting services, and, as a result, do not have large capital expenditures that are required to fund land and marine seismic crews. Our costs are therefore much more variable than most other seismic companies, which provides greater flexibility in difficult economic times.

During the fourth quarter of 2008 and continuing into 2009, we have been re-evaluating our business strategy to ensure that it remains consistent with the commercial realities of our customers and a market guided by dramatically lower commodity prices. We also have re-evaluated and made necessary reductions in our cost structure to better align with necessary changes in strategy and to adjust to the current levels of demand. For example, we observed a severe slowdown in sales activity for our land acquisition systems in North America and Russia. As a result, we have reduced employee headcount across our company by approximately 13% in December 2008 and January 2009, with the most reduction concentrated within the Land Imaging Systems segment. We believe that our current headcount is sufficient to manage our business and serve our customers needs during 2009 in all segments, but we may make further adjustments as market conditions and our strategy dictate.

In addition to analyzing employee resources, we have evaluated current and planned internal and external programs, including research and development, to ensure that each program is serving a worthwhile goal in the most efficient manner. We are a technology solutions company and we rely upon our research and development programs to ensure that we offer products capable of solving complex imaging problems around the world efficiently. The recent declines in oil and natural gas prices do not change the universally accepted facts that the oil and gas industry still suffers from declines in the number and size of new discoveries and production declines in known reservoirs. These facts, combined with growing global demographics, support a conclusion of continuing long-term demand for hydrocarbons. In the current difficult economic environment, we believe that our technologies and services are ideal tools for E&P companies seeking ways to be more productive in a lower price environment. As a result, we have focused much of our research and development efforts on strategic programs that are seeking efficient and

cost-effective solutions for the challenges in the current market and also in a recovered economy.

A key element of our business strategy, which started with the acquisition of GXT in 2004, has been to understand the challenges faced by E&P companies in survey planning, acquisition, processing and even interpretation, and to strive to develop and offer technology and services that enable us to work with the E&P companies to solve their challenges. We have found that a collaborative

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relationship with E&P companies, with a goal of better understanding their imaging challenges and then working with them and our contractor customers to assure that the right technologies are properly applied, is the most effective method for meeting our customers needs. This strategy of being a full solutions provider to solve the most difficult challenges for our customers is an important element of our long term business strategy, and we are implementing this approach globally through local personnel in our regional organizations who possess an intimate understanding of the unique challenges in their areas.

In summary, our business strategy is predicated on successfully executing seven key imperatives:

Continuing to manage our cost structure to reflect current market and economic conditions while keeping key strategic technology programs progressing with an overall goal of enabling E&P companies to solve their complex reservoir problems most efficiently and effectively;

Expanding our ION Solutions business in new regions with new customers and new land and marine service offerings, including proprietary services for owners and operators of oil and gas properties;

Globalizing our ION Solutions data processing business by opening advanced imaging centers in strategic locations, and expanding our presence in the land seismic processing segment, with emphasis on serving the emerging national oil companies;

Developing and introducing our next generation of marine towed streamer products, with a goal of developing markets beyond the new vessel market;

Expanding our seabed imaging solutions business using our VectorSeis® Ocean (VSO) acquisition system platform and derivative products to obtain technical and market leadership in what we continue to believe is a very important and expanding market;

Utilizing our recent ARAM acquisition as a framework to increase our market share and profitability in cable-based land acquisition systems; and

Furthering the commercialization of FireFly®, our cableless full-wave land data acquisition system, through sales and also through a services/rental model to advance the diffusion rate.

The rapid decline of oil and natural gas prices in late 2008 makes it even more important for the E&P industry to reduce the number of dry holes and to optimize the wells that are successful. E&P companies continue to be interested in technology to increase production and in improving their understanding of targeted reservoirs, in both the exploration and production phases. We believe that our new technologies, such as FireFly, DigiFIN and Orca®, will continue to attract interest because they are designed to deliver improvements in image quality within more productive delivery systems. For more information regarding our products and services, see " *Products and Services* below.

Full-Wave Digital

Our seismic data acquisition products and services are well suited for traditional 2-D, 3-D, and 4-D data collection as well as more advanced multicomponent or full-wave digital seismic data collection techniques.

Conventional geophone sensors are based on a mechanical, coil-spring magnet arrangement. The single component geophone measures ground motion in one direction, even though reflected energy in the Earth travels in multiple directions. This type of geophone can capture only pressure waves (P-waves). P-waves represent only a portion of the full seismic wavefield. Conventional geophones have limitations in collecting shear waves (S-waves), which involve a component of particle motion that is orthogonal to the direction of wave propagation (a more horizontal component of motion). In addition, geophones require accurate placement both vertically and spatially. Inaccurate placement, which can result from poorly planned surveys or human error, can introduce distortions that negatively affect the final subsurface image.

Multicomponent seismic sensors are designed to record the full seismic wavefield by measuring reflected seismic energy in three directions. This vector-based measurement enables multicomponent sensors to record not only P-wave

data, but also to record shear waves. ION s VectorSeis sensor was developed using MEMS accelerometer technology to enable a true vector measurement of all seismic energy reflected in the subsurface. VectorSeis is designed to capture the entire seismic signal and more faithfully record all wavefields traveling within the Earth. By measuring both P-waves and S-waves, the VectorSeis full-wave sensor records a more

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complete and accurate seismic dataset having higher frequency content than conventional sensors. When data recorded by VectorSeis is processed using the advanced imaging techniques offered by our GXT Imaging Solutions group, we are able to deliver higher-definition images of the subsurface to our oil and gas customers, which enables geophysicists to better identify subtle structural, rock, and fluid-oriented features in the Earth. In addition, we believe that full-wave technologies should deliver improved operating efficiencies in field acquisition and reduce cycle times across the seismic workflow, from planning through acquisition and final image rendering.

VectorSeis acquires full-wave seismic data in both land and marine environments using a portfolio of advanced imaging platforms manufactured by ION:

Scorpion® our cable-based land acquisition system that replaced our System Four® system in late 2006;

VectorSeis Ocean (VSO) our redeployable ocean bottom cable system for the seabed; and

FireFly our cableless full-wave land acquisition system.

Segment Information

We operate our company through four business segments. Three of these segments Land Imaging Systems, Marine Imaging Systems and Data Management Solutions make up our ION Systems division. The fourth segment is our ION Solutions division.

Land Imaging Systems cable-based, cableless, and radio-controlled seismic data acquisition systems, digital and analog geophone sensors, vibroseis vehicles (i.e. vibrator trucks), and source controllers for detonator and vibrator energy sources.

Marine Imaging Systems towed streamer and redeployable ocean bottom cable seismic data acquisition systems and shipboard recorders, streamer positioning and control systems, and energy sources (such as air guns and air gun controllers).

Data Management Solutions software and related services for navigation and data management involving towed marine streamer and seabed operations.

ION Solutions advanced seismic data processing services for marine and land environments, our marine seismic data libraries, and our Integrated Seismic Solutions (ISS) services.

We measure segment operating results based on income from operations. See further discussion of our segment operating results at Note 14 of *Notes to Consolidated Financial Statements.*

Products and Services

See Item 7 *Management s Discussion and Analysis of Financial Condition and Results of Operations Executive Summary* for a list of certain developments in our business in 2008 and early 2009.

ION Systems Division

Land Imaging Systems Products

Products for our Land Imaging Systems business segment include the following:

Land Acquisition Systems. Our cable-based Scorpion and ARIES® land acquisition systems consist of a central recording unit and multiple remote ground equipment modules that are connected by cable. The central recording unit is in a transportable enclosure that serves as the control center of each system and is typically mounted within a vehicle or helicopter. The central recording unit receives digitized data, stores the data on storage media for subsequent processing, and displays the data on optional monitoring devices. It also provides calibration, status, and test functionality. The remote ground equipment consists of multiple remote modules and line taps positioned over the survey area. Seismic data is collected by analog geophones or VectorSeis digital sensors.

Our ARIES product line was acquired in connection with our acquisition of ARAM in September 2008. The product line consists of analog cable-based land acquisition systems and related peripherals and equipment. ARIES land system products include remote

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acquisition modules (RAMs), which acquire analog seismic data from the geophones and transmit the data digitally to the central processing equipment, and line tap units that interconnect baseline cables from the recording equipment to multiple receiver lines and function to retransmit data from the RAMs to central recording equipment. ARIES products also include system batteries (standard sealed or lithium-ion), central recording equipment (including seismic processing module and ARAM software), baseline cables that connect the central recording equipment with the taps and receiver line cables that connect geophones or hydrophone groups to a RAM.

Scorpion is capable of recording full-wave seismic data. Digital sensors, while more expensive than traditional analog geophones, can provide increased response linearity and bandwidth, which translates into higher resolution images of the subsurface. In addition, one digital sensor can replace a string of six or more analog geophones, providing users with equipment weight reduction and improved operating efficiencies.

Scorpion contains numerous enhancements that are designed to reduce our manufacturing costs, improve system reliability and productivity, and enable higher station count acquisition. During 2007, we delivered 14 Scorpion land acquisition systems to Oil and Natural Gas Corporation Limited, the national oil company of India. Each Scorpion system is capable of recording with digital, full-wave VectorSeis sensors or analog geophones.

We began VectorSeis technology land acquisition field tests in 1999, and since that time VectorSeis technology has been used to acquire seismic data in North America, Europe, Asia, the Pacific Basin region, the Middle East, and the Commonwealth of Independent States. In 2002, we introduced our VectorSeis System Four land acquisition system. In 2004, we announced the introduction of our new hybrid System Four platform, which gave seismic companies the flexibility to use both traditional analog geophone sensors and digital full-wave VectorSeis sensors on the same survey. VectorSeis is also used as the primary sensor device on our FireFly cableless land acquisition system.

In November 2005, we announced our development of FireFly, a cableless system for full-wave land seismic data acquisition. By removing the constraints of cables, geophysicists can custom-design surveys for multiple subsurface targets and increase receiver station density to more fully sample the subsurface. We believe that the cableless design of FireFly will improve field productivity while reducing concerns for health and safety and environmental liability exposure. FireFly s benefits include a decrease in system weight and, we believe, superior operational efficiencies, reduction in operational troubleshooting time, and better defined sampled seismic data. Also, we believe that the data management capabilities of FireFly should reduce the amount of time spent pre-processing the data.

During late 2006 and 2007, we delivered an early version of our FireFly system, which was used by British Petroleum and then Apache Corporation, in field application projects located in Wyoming and northeast Texas, respectively. An advanced version of our FireFly system was successfully deployed in July 2008 on a multi-client survey in northwest Colorado in which Pittsburgh-based E&P operator, East Resources, served as the lead underwriter. This initial deployment of the more advanced version of our FireFly system was called Durham Ranch, after one of the large, privately held ranches in this ecologically sensitive area. In early 2009, ION sold its first commercial FireFly system, which will be used in a producing hydrocarbon basin containing reservoirs that have been difficult to image with conventional seismic techniques.

Geophones. Geophones are analog sensor devices that measure acoustic energy reflected from rock layers in the Earth s subsurface using a mechanical, coil-spring element. We market a full suite of geophones and geophone test equipment that operate in most environments, including land, transition zone, and downhole. We believe our Sensor group is the leading designer and manufacturer of precision geophones used in seismic data acquisition. Our analog geophones are used in other industries as well.

Vibrators and Energy Sources. Vibrators are devices carried by large vibroseis vehicles and, along with dynamite, are used as energy sources for land seismic acquisition. We market and sell the AHV-IV , an articulated tire-based vibrator vehicle, and a tracked vibrator, the XVib®, for use in environmentally sensitive areas such as the Arctic tundra and desert environments.

Our Pelton division is a provider of energy source control and positioning technologies. Pelton s Vib Pro control system provides vibrator vehicles with digital technology for energy control and global positioning system technology for navigation and positioning. Pelton s Shot Pro dynamite firing system, released in 2007, is the equivalent technology for seismic operations using dynamite energy sources.

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Marine Imaging Systems Products

Products for our Marine Imaging Systems business segment include the following:

Marine Acquisition Systems. Our traditional marine acquisition system consists of towed marine streamers and shipboard electronics that collect seismic data in water depths greater than 30 meters. Marine streamers, which contain hydrophones, electronic modules and cabling, may measure up to 12,000 meters in length and are towed (up to 20 at a time) behind a towed streamer seismic acquisition vessel. The hydrophones detect acoustical energy transmitted through water from the Earth s subsurface structures. Our first DigiSTREAMER system, our next-generation towed streamer system, was successfully commissioned at the start of the North Sea season in 2008. The second DigiSTREAMER system was delivered during 2008. DigiSTREAMER uses solid streamer and continuous acquisition technology for towed streamer operations.

During 2004, we introduced our VectorSeis Ocean (VSO) system, an advanced system for seismic data acquisition using redeployable ocean bottom cable, and we shipped the first system to Reservoir Exploration Technology, ASA (RXT), a Norwegian seismic contractor. During 2008, we completed the delivery of our fifth VSO system to RXT. We have entered into a multi-year agreement with RXT under which RXT has agreed to purchase a minimum of $160 million in VSO systems and related equipment from us through 2011. Approximately $122.0 million in purchase commitments remain under the agreement. The agreement also entitles us to receive a royalty of 2.1% of all revenues generated by RXT through the use of VSO equipment from January 2008 through the end of the term of the agreement. In turn, the agreement grants RXT exclusive rights to this product line through 2011. In 2008, we recognized $2.4 million of royalty income under this agreement.

Marine Positioning Systems. Our DigiCOURSE® marine streamer positioning system includes streamer cable depth control devices, lateral control devices, compasses, acoustic positioning systems, and other auxiliary sensors. This equipment is designed to control the vertical and horizontal positioning of the streamer cables and provides acoustic, compass, and depth measurements to allow processors to tie navigation and location data to geophysical data to determine the location of potential hydrocarbon reserves. DigiFIN, our advanced lateral streamer control system, saw significant acceptance by the industry in 2008 with a total of nine systems delivered during the year. DigiFIN is designed to maintain tighter, more uniform marine streamer separation along the entire length of the streamer cable, which allows for better sampling of seismic data and improved subsurface images. We believe that DigiFIN also enables faster line changes and minimize the requirements for in-fill seismic work.

Source and Source Control Systems. We manufacture and sell air guns, which are the primary seismic energy source used in marine environments to initiate the acoustic energy transmitted through the Earth s subsurface. An air gun fires a high compression burst of air underwater to create an energy wave for seismic measurement. We offer a digital source control system (DigiSHOT®), which allows for reliable control of air gun arrays for 4-D exploration activities.

Data Management Solutions Products and Services

Through this segment, we supply software systems and services for towed marine streamer and seabed operations. Software developed by our subsidiary, Concept Systems, is installed on towed streamer marine vessels worldwide and is a component of many redeployable and permanent seabed monitoring systems. Products and services for our Data Management Solutions business segment include the following:

Marine Imaging. Orca is our next-generation successor software product for towed streamer navigation and integrated data management applications. During 2007 and 2008, Orca made significant inroads into the towed streamer market with several major seismic contractors adopting the technology for their new, high-end seismic vessels. Orca includes modules designed to manage acquisition marine surveys integrating the navigation, source control, and streamer control functions. Orca can manage complex marine surveys such as time-lapse 4-D surveys and WATS (Wide Azimuth Towed Streamer) surveys. WATS is an advanced acquisition technique for imaging complex structures (for example, subsalt) in the marine environment, generally implemented with multiple source vessels that shoot at some distance from the streamer recording vessel. Orca is designed to be compatible with our DigiFIN product, which enables streamer lateral control, and DigiSTREAMER, ION s new marine streamer acquisition system. SPECTRA® is Concept Systems legacy integrated navigation and survey control software system for towed streamer-based 2-D, 3-D, and 4-D seismic survey operations.

Seabed Imaging. Concept Systems also offers GATOR®, an integrated navigation and data management software system for multi-vessel ocean bottom cable and transition zone (such as marshlands) operations. The GATOR system is designed to provide real-time, multi-vessel positioning and data management solutions for ocean-bottom, shallow-water, and transition zone crews.

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Survey Design, Planning and Optimization. Concept Systems also offers consulting services for planning, designing and supervising complex surveys, including 4D and WATS survey operations. Concept Systems acquisition expertise and in-field software platforms and development capability are designed to allow their clients to optimize these complex surveys, improving image quality and reducing costs.

Post-Survey Analysis Tools. Concept Systems Command and Control systems such as Orca, SPECTRA and GATOR are designed to integrate with its post-survey tools for processing, analysis, and data quality control. These tools include its SPRINT® navigation processing and quality control software for marine geophysical surveys, and its REFLEX® software for seismic coverage and attribute analysis.

ION Solutions Division Services

Services for our ION Solutions business segment include the following:

Seismic Data Processing Services. The GXT Imaging Solutions group provides a variety of seismic data processing and imaging services to E&P companies for marine, ocean bottom and land environments. Services include survey planning and design, project oversight of data acquisition operations, advanced signal processing, final image rendering, and geophysical and reservoir analysis.

The GXT Imaging Solutions group offers processing and imaging services through which it develops a series of subsurface images by applying its processing technology to data owned or licensed by its customers. The group also provides support services to its customers, such as data pre-conditioning for imaging and outsourced management of seismic data acquisition and image processing services.

The GXT Imaging Solutions group uses parallel computer clusters to process seismic data by applying advanced proprietary algorithms and workflows that incorporate techniques such as illumination analysis, data conditioning and velocity modeling, and time and depth migration. Pre-stack depth migration involves the application of advanced, computer-intensive processing techniques which convert time-based seismic information to a depth basis. While pre-stack depth migration is not necessary in every imaging situation, it generally provides the most accurate subsurface images in areas of complex geology. It also helps to convert seismic data, which is recorded in the time domain, into a depth domain format that is more readily applied by geologists and reservoir engineers in identifying well locations. Our Reverse Time Migration (RTM) technology was developed to improve imaging in areas where complex structural conditions or steeply dipping subsurface horizons have provided imaging challenges for oil and gas companies.

Our AXIS Geophysics group (AXIS), based in Denver, Colorado, focuses on advanced seismic data processing for stratigraphically complex onshore environments. AXIS has developed a proprietary data processing technique called AZIM that is designed to better account for the anisotropic effects of the Earth (i.e., different layers of geological formations that are not parallel to each other), which tend to distort seismic images. AZIM is designed to correct for these anisotropic effects by producing higher resolution images in areas where the velocity of seismic waves varies with compass direction (or azimuth). The AZIM technique is used to analyze fracture patterns within reservoirs.

We believe that the application of ION s advanced processing technologies and imaging techniques can better identify complex hydrocarbon-bearing structures and deeper exploration prospects. We also believe that the combination of GXT s capabilities in advanced velocity model building and depth imaging, along with AXIS capability in anisotropic imaging, provides an advanced toolkit for maximizing the data measurements obtained by our VectorSeis full-wave sensor.

Integrated Seismic Solutions (ISS). ION s ISS services are designed to manage the entire seismic process, from survey planning and design to data acquisition and management, through pre-processing and final subsurface imaging. The ISS group focuses on the technologically intensive components of the image development process, such as survey planning and design and data processing and interpretation, and outsources the logistics component to geophysical logistics contractors. ION offers its ISS services to customers on both a proprietary and multi-client basis. On both bases, the customers pre-fund a majority of the data acquisition costs. With the proprietary service, the customer also pays for the imaging and processing, but has exclusive ownership of the data after it has been processed. For multi-client surveys, we assume some of the processing costs but retain ownership of the data and images and receive on-going license revenue from subsequent data license sales.

Seismic Data Libraries. Since 2002, GXT has acquired and processed a growing seismic data library consisting of non-exclusive marine and ocean bottom data from around the world. The majority of the data libraries licensed by GXT consist of ultra-deep 2-D lines that E&P companies use to better evaluate the evolution of petroleum systems at the basin level, including insights into the

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character of source rocks and sediments, migration pathways, and reservoir trapping mechanisms. In many cases, the availability of geoscience data extends beyond seismic information to include magnetic, gravity, well log, and electromagnetic information, which help to provide a more comprehensive picture of the subsurface. Known as SPANS, these geophysical data libraries currently exist for major basins worldwide, including the northern Gulf of Mexico, in the southern Caribbean, off the northern coast of South America, offshore West Africa, offshore Colombia, offshore India and offshore northern Canada and Alaska. In 2008, we completed the acquisition of our latest basin-scale seismic survey library for the Eastern Java Sea and the Makassar Straits, two prospective areas offshore Indonesia and Malaysia. Data for nearly 10,000 kilometers was acquired during the acquisition phase of this project. Additionally, we successfully completed the acquisition phase of a multi-client seismic imaging project using our FireFly cableless land acquisition system at Durham Ranch in Northwest Colorado. Additional SPANS are planned or under development for other regions of the world.

Product Research and Development

Our research and development efforts have focused on improving both the quality of the subsurface image and the seismic data acquisition economics for our customers. Our ability to compete effectively in the manufacture and sale of seismic equipment and data acquisition systems, as well as related processing services, depends principally upon continued technological innovation. Development cycles of most products, from initial conception through commercial introduction, may extend over several years.

In 2008, we principally focused our research and development efforts on commercialization of our FireFly system and on DigiSTREAMER, our solid streamer cable for marine acquisition. FireFly was deployed in July 2008 on a multi-client survey at Durham Ranch, and we delivered the first commercial FireFly system in early 2009. A DigiSTREAMER system was deployed in an open-water test by Fugro, a Netherlands company, early in 2008 and was sold to Fugro shortly thereafter.

As a result of current economic and market conditions, in 2009 we intend to reduce our overall spending on research and development projects. During 2009, we expect that our product development efforts will continue across selective business lines aimed at the development of strategic key products and technologies. Major research and development programs are expected to continue for FireFly, our Digi- line of marine streamer technologies, our cable-based land systems and our land energy source technologies. A key research and development initiative is underway to integrate FireFly with our cable-based land recording systems in order to provide contractors with a hybrid architecture for cabled and cableless recording on the same survey. We also are investing to develop hybrid sensor functionality for both ARIES II and FireFly. The effort on ARIES II involves making the current all-analog system compatible with VectorSeis; the effort on FireFly involves making the current all-digital system compatible with analog geophones. For a summary of our research and development expenditures during the past five years, see Item 6. *Selected Financial Data*.

Because many of these new products are under development, their commercial feasibility or degree of commercial acceptance, if any, is not yet known. No assurance can be given concerning the successful development of any new products or enhancements, the specific timing of their release or their level of acceptance in the marketplace.

Markets and Customers

Based on historical revenues, we believe that we are a market leader in numerous product lines, including geophones, full-wave sensors based upon micro-electro magnetic systems (MEMS), navigation and data management software, marine positioning and streamer control systems, cableless land acquisition systems and redeployable seabed recording systems.

Our principal customers are seismic contractors and E&P companies. Seismic contractors purchase our data acquisition systems and related equipment and software to collect data in accordance with their E&P company customers specifications or for their own seismic data libraries. We also market and sell products and offer services directly to E&P companies, primarily imaging-related processing services and multi-client seismic data libraries from our GXT subsidiary, as well as consulting services from Concept Systems and GXT. During the years ended December 31, 2008, 2007 and 2006, no single customer accounted for 10% or more of our consolidated net revenues.

Until September 2008, worldwide exploration activities had increased in response to increased hydrocarbon demand and diminishing supply from many regions. As a result, the utilization of both land and marine seismic data

acquisition products and services had increased significantly, with seismic contractors expanding their acquisition asset base and retrofitting existing assets with newer, more efficient technologies. Since the global economic crisis began to unfold late in the third quarter of 2008, demand for products and services has fallen in all industrial sectors and in all regions. The E&P industry has been affected by a rapid fall-off in

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prices for both natural gas and crude oil, with the latter falling from a peak of $147 per barrel in July 2008 to approximately $40 per barrel in December 2008. Hydrocarbon price erosion has caused E&P companies to revisit their capital investment plans, which, in turn, is reverberating back through the supply chain to affect us both directly and indirectly through our seismic acquisition contractor customers.

Contractors from China and other countries are increasingly active not only in their own countries but also in other international markets. As a result, a significant part of our marketing effort is focused on areas outside of the United States. Foreign sales are subject to special risks inherent in doing business outside of the United States, including the risk of armed conflict, civil disturbances, currency fluctuations, embargo and governmental activities, customer credit risks, and risk of non-compliance with U.S. and foreign laws, including tariff regulations and import/export restrictions.

We sell our products and services through a direct sales force consisting of employees and international third-party sales representatives responsible for key geographic areas. During the years ended December 31, 2008, 2007 and 2006, sales to destinations outside of North America accounted for approximately 60%, 62% and 68% of our consolidated net revenues, respectively. Further, systems sold to domestic customers are frequently deployed internationally and, from time to time, certain foreign sales require export licenses.

We have consolidated our international sales under a new entity operating in Dubai. Dubai is geographically better positioned to ensure that we are close to our customers in the most active oil and gas centers of the world. Associated with this change will be a more effective tax structure that better reflects our global operations and better operational efficiencies for our international customers.

Traditionally, our business has been seasonal, with strongest demand in the fourth quarter of our fiscal year.

For information concerning the geographic breakdown of our net revenues, see Note 14 of *Notes to Consolidated Financial Statements*.

Manufacturing Outsourcing and Suppliers

Since 2003, we have increased the use of contract manufacturers in our Land and Marine Imaging Systems business segments as an alternative to manufacturing our own products. We have outsourced the manufacturing of our vibrator vehicles, our towed marine streamers, our redeployable ocean bottom cables, various components of VectorSeis Ocean and certain electronic and ground components of our land acquisition systems. We may experience supply interruptions, cost escalations, and competitive disadvantages if we do not monitor these relationships properly.

These contract manufacturers purchase a substantial portion of the components used in our systems and products from third-party vendors. Certain items, such as integrated circuits used in our systems, are purchased from sole source vendors. Although we and our contract manufacturers attempt to maintain an adequate inventory of these single source items, the loss of ready access to any of these items could temporarily disrupt our ability to manufacture and sell certain products. Since our components are designed for use with these single source items, replacing the single source items with functional equivalents could require a redesign of our components and costly delays could result.

In 2004, we transferred ownership of our subsidiary, Applied MEMS, Inc., to Colibrys Ltd. (Colibrys), a Swiss MEMS-based technology firm, in exchange for a 10% ownership interest in Colibrys. We also entered into a five-year supply agreement with Colibrys that provides for Colibrys to supply us with products on an exclusive basis in our markets. Colibrys manufactures micro-electro-mechanical system (MEMS) products, including accelerometers, for our VectorSeis sensors, and for other applications, including test and measurement, earthquake and structural monitoring, and defense. While we continue to believe that MEMS-based sensors like our VectorSeis sensors will increasingly be used in seismic imaging, we also believe that improvements in the design and manufacture of MEMS technology will also likely occur, that will require additional financial and human capital to achieve. By outsourcing our MEMS manufacturing operations to a MEMS-based technology firm such as Colibrys, we believe that we are better positioned to leverage the research and development of these products and industries, improve gross margins on our VectorSeis-based products, and reduce our future investment requirements in MEMS technology. We have no further obligations to fund Colibrys with regard to any mandatory assessments or additional capital contribution requirements but we may choose to invest further capital into Colibrys from time to time.

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Competition

The market for seismic products and services is highly competitive and is characterized by continual changes in technology. Our principal competitor for land and marine seismic equipment is Societe d Etudes Recherches et Construction Electroniques (Sercel), an affiliate of the French seismic contractor, Compagnie General de Geophysique Veritas (CGGVeritas). Sercel possesses the advantage of being able to sell its products and services to an affiliated seismic contractor that operates both land crews and seismic acquisition vessels, providing it with a greater ability to test new technology in the field and to capture a captive internal market for product sales. Sercel has also demonstrated that it is willing to offer extended financing sales terms to customers in situations where we declined to do so due to credit risk. We also compete with other seismic equipment companies on a product-by-product basis. Our ability to compete effectively in the manufacture and sale of seismic instruments and data acquisition systems depends principally upon continued technological innovation, as well as pricing, system reliability, reputation for quality, and ability to deliver on schedule.

Certain seismic contractors have designed, engineered, and manufactured seismic acquisition technology in-house (or through a controlled network of third-party vendors) in order to achieve differentiation versus their competition. For example, WesternGeco (a wholly-owned subsidiary of Schlumberger Limited, a large integrated oilfield services company) relies heavily on its in-house technology development for designing, engineering, and manufacturing its Q-Technology platform, which includes seismic acquisition and processing systems. Although this technology competes directly with ION s technology for marine streamer, seabed, and land acquisition, WesternGeco does not provide Q-Technology services to other seismic acquisition contractors. However, the risk exists that other seismic contractors may decide to conduct more of their own seismic technology development, which would put additional pressures on the demand for ION acquisition equipment.

In addition, over the last several years, we have seen both new-build and consolidation activity within the marine towed streamer segment, which could impact our business results in the future. We expect the number of 2-D and 3-D marine streamer vessels, including those in operation, under construction, or announced additions to capacity, to increase to approximately 155 by year-end 2010, compared to approximately 124 at December 31, 2008. In addition, there has been an increase in acquisition activity within the sector, with the major vessel operators Schlumberger, CGGVeritas, and PGS all moving to acquire new market entrants in the last several years. Many of these incumbent operators develop their own marine streamer technologies, such that consolidation in the sector reduces the number of potential customers and vessel outfitting opportunities for us.

Our GXT Imaging Solutions group competes with more than a dozen processing companies that are capable of providing pre-stack depth migration services to E&P companies. While the barriers to entry into this market are relatively low, the barriers to competing at the higher end of the market, which is the advanced pre-stack depth migration market, where our efforts are focused, are significantly higher. At the higher end of this market, CGGVeritas and WesternGeco are ION Solutions division s two primary competitors for advanced imaging services. Both of these companies are larger than ION in terms of revenues, number of processing locations, and sales and marketing resources. In addition, both CGGVeritas and WesternGeco possess an advantage of being part of affiliated seismic contractor companies, providing them with access to customer relationships and seismic datasets that require processing.

Concept Systems provides advanced data integration software and services to seismic contractors acquiring data using either towed streamer vessels or ocean-bottom cable on the seabed. Vessels or ocean-bottom cable crews that do not use Concept Systems software either rely upon manual data integration, reconciliation, and quality control, or develop and maintain their own proprietary software packages. There is evidence of growing competition to Concept Systems core command and control business from Sercel and other smaller companies. Concept Systems has recently signed long term (between 2 and 5 years) technology partnerships with many of its key clients and will continue to seek to develop key new technologies with these clients. An important competitive factor for companies in the same business as Concept Systems is the ability to provide advanced complex command and control software with a high level of reliability combined with expert systems and project support to ensure operations run cost effectively.

In the land systems market, ION is the second largest provider of cable-based land systems worldwide, trailing only Sercel. In the cableless market, several companies have introduced technologies that compete, directly or

indirectly, with FireFly, including Sercel, Ascend Geo, OYO Geospace, Fairfield, and Wireless Seismic. Each company is attempting to implement a cableless architecture in a slightly different way, with variations related to how the telemetry (data communications backbone) works, whether the system can use digital, full-wave sensors (or only analog geophones), and the amount of integration between the cableless recording unit and other technologies used for survey design, equipment deployment/retrieval, operational command and control, and data management.

Intellectual Property

We rely on a combination of patents, copyrights, trademark, trade secrets, confidentiality procedures, and contractual provisions to protect our proprietary technologies. Although our portfolio of patents is considered important to our operations, no one patent is considered essential to our success.

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Our patents, copyrights, and trademarks offer us only limited protection. Our competitors may attempt to copy aspects of our products despite our efforts to protect our proprietary rights, or may design around the proprietary features of our products. Policing unauthorized use of our proprietary rights is difficult, and we are unable to determine the extent to which such use occurs. Our difficulties are compounded in certain foreign countries where the laws do not offer as much protection for proprietary rights as the laws of the United States. From time to time, third parties inquire and claim that we have infringed upon their intellectual property rights and we make similar inquiries and claims to third parties. No material liabilities have resulted from these third party claims to date.

The information contained in this Annual Report on Form 10-K contains references to trademarks, service marks and registered marks of ION and our subsidiaries, as indicated. Except where stated otherwise or unless the context otherwise requires, the terms VectorSeis, VectorSeis System Four, System Four, FireFly, ARIES, DigiSHOT, DigiCOURSE, GATOR, SPECTRA, Orca, Scorpion, SPRINT, and REFLEX refer to our VECTORSEIS®, VECTORSEIS SYSTEM FOUR®, SYSTEM FOUR®, FIREFLY®, ARIES®, DIGISHOT®, XVIB®, DIGICOURSE®, GATOR®, SPECTRA®, ORCA®, SCORPION®, SPRINT®, and REFLEX® registered marks, and the terms AZIM, ArcticSPAN, True Digital, DigiRANGE II, DigiSTREAMER, CompassBIRD, SM-24, AHV-IV, Vib Pro, DigiFIN, Autobahn, and SWAT refer to our AZIM, ArcticSPAN, True Digital, DigiRANGE II, DigiSTREAMER, CompassBIRD, SM-24, AHV-IV, Vib Pro, Shot Pro, DigiFIN, Autobahn, and SWAT trademarks and service marks.

Regulatory Matters

Our operations are subject to laws, regulations, government policies, and product certification requirements worldwide. Changes in such laws, regulations, policies or requirements could affect the demand for our products or result in the need to modify products, which may involve substantial costs or delays in sales and could have an adverse effect on our future operating results. Our export activities are also subject to extensive and evolving trade regulations. Certain countries are subject to trade restrictions, embargoes, and sanctions imposed by the U.S. government. These restrictions and sanctions prohibit or limit us from participating in certain business activities in those countries.

Our operations are subject to numerous local, state, and federal laws and regulations in the United States and in foreign jurisdictions concerning the containment and disposal of hazardous materials, the remediation of contaminated properties, and the protection of the environment. We do not currently foresee the need for significant expenditures to ensure our continued compliance with current environmental protection laws. Regulations in this area are subject to change, and there can be no assurance that future laws or regulations will not have a material adverse effect on us. Our customers operations are also significantly impacted by laws and regulations concerning the protection of the environment and endangered species. For instance, many of our marine contractors have been affected by regulations protecting marine mammals in the Gulf of Mexico. To the extent that our customers operations are disrupted by future laws and regulations, our business and results of operations may be materially adversely affected.

Employees

As of December 31, 2008, we had 1,413 regular, full-time employees, 851 of which were located in the U.S. From time to time and on an as-needed basis, we supplement our regular workforce with individuals that we hire temporarily or as independent contractors in order to meet certain internal manufacturing or other business needs. Our U.S. employees are not represented by any collective bargaining agreement, and we have never experienced a labor-related work stoppage. We believe that our employee relations are satisfactory.

In the fourth quarter of 2008, we initiated a restructuring program, which included plans for reducing our headcount by approximately 13%, or 188 positions. As of December 31, 2008, we had reduced our headcount by 83 employees. In the first quarter of 2009, we completed our restructuring program, eliminating the remaining 105 positions. During 2009, we will continue to evaluate our staffing needs and may further reduce our headcount.

Financial Information by Segment and Geographic Area

For a discussion of financial information by business segment and geographic area, see Note 14 of *Notes to Consolidated Financial Statements.*

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Item 1A. ***Risk Factors***

This report contains or incorporates by reference statements concerning our future results and performance and other matters that are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (Exchange Act). These statements involve known and unknown risks, uncertainties, and other factors that may cause our or our industry s results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by such forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as may, will, would, should, intend, ex plan, anticipate, believe, estimate, predict, potential, or continue or the negative of such terms or other com terminology. Examples of other forward-looking statements contained or incorporated by reference in this report include statements regarding:

our expectations for future financing and the refinancing of our existing indebtedness;

the expected effects of current and future worldwide economic conditions and demand for oil and natural gas;

future levels of spending by our customers;

compliance with our debt financial covenants;

expected net revenues, income from operations and net income;

expected gross margins for our products and services;

future benefits to our customers to be derived from new products and services, such as Scorpion and FireFly;

future growth rates for certain of our products and services;

future sales to our significant customers;

our ability to continue to leverage our costs by growing our revenues and earnings;

the degree and rate of future market acceptance of our new products and services;

expectations regarding future mix of business and future asset recoveries;

the timing of anticipated sales;

anticipated timing and success of commercialization and capabilities of products and services under development and start- up costs associated with their development;

expected improved operational efficiencies from our full-wave digital products and services;

potential future acquisitions;

future levels of capital expenditures;

future cash needs and future sources of cash, including availability under our revolving line of credit facility;

our ability to maintain our costs at consistent percentages of our revenues in the future;

the outcome of pending or threatened disputes and other contingencies;

future demand for seismic equipment and services;

future seismic industry fundamentals;

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the adequacy of our future liquidity and capital resources;

future oil and gas commodity prices;

future opportunities for new products and projected research and development expenses;

success in integrating our acquired businesses;

expectations regarding realization of deferred tax assets; and